

Remarks

Reconsideration and allowance of the subject patent application are respectfully requested.

An Information Disclosure Statement was submitted in this application on June 29, 2007. Consideration of the submitted information is respectfully requested.

Claims 19-22, 27, 28, 31-34, 39, 40, 43 and 44 were rejected under 35 U.S.C. Section 103(a) as allegedly being "obvious" over Pogrebinsky et al. (U.S. Patent Publication No. 2002/0101855) in view of Haskell et al. (U.S. Patent No. 5,287,182) and in further view of Ohlsson et al. (U.S. Patent No. 6,452,950).

All of the independent claims call for controlling the packets stored in the receiving buffer "by their number without using temporal information received with the packets". This feature finds support, by way of example and without limitation, in the subject application at page 13, line 21 to page 14, line 4 and page 23, lines 14-22.

As previously discussed, neither Pogrebinsky et al. nor Haskell et al. discloses or suggests controlling packets in a buffer "by their number without using temporal information received with the packets" as claimed. Instead, these references teach away from the claims and use temporal information from the transmitting side for jitter buffer control.

In particular, Pogrebinsky et al. discloses methods and apparatus that detect burst periods from network activity and analyze the requisite burst periods to determine the likelihood of a subsequent burst period. Jitter buffer size is adjusted based on the determined likelihood of the subsequent burst period. As a result of this method, jitter buffer size is adjusted proactively, based on the likelihood of burst periods. With reference to Figure 5, the jitter buffer size is determined based on TTP (time-to-play) statistics which involve packet size estimations based on time stamps accompanying received packets. See Pogrebinsky et al., paragraph [0032] and paragraphs [0034]-[0046]. Consequently, Pogrebinsky et al. does not disclose or suggest controlling packets in a buffer by their number without using temporal information received with the packets as claimed.

Haskell et al. discloses that underflow of receiver data buffers can be alleviated by using a jitter delay (Dj) which causes an extra accumulation of data in the data buffers prior to decoding. With reference to Figure 4 of Haskell et al., the determination of the jitter delay

involves use of system clock reference (SCR) values extracted from received pack headers. See Haskell et al., Figure 4; col. 3, lines 43-53; col. 4, lines 18-22; and col. 6, lines 15-35.

Consequently, Haskell et al. does not disclose or suggest controlling packets in a buffer by their number without using temporal information received with the packets as claimed.

The office action again insists that the jitter delay value D_j in Haskell et al. corresponds to the claimed reference value to which the number of packets in the buffer is compared. See, e.g., 6/4/2007 Office Action, page 4. However, there is no disclosure in Haskell et al. of comparing D_j to the number of packets in a buffer and no response is offered in the 6/4/2007 office action to the comments on Haskell et al. provided in the prior response.

The office action contends that Ohlsson et al. discloses controlling packets stored in a receiving buffer by their number without using temporal information received with the packets and that it would have been obvious to include this feature in the combined Pogrebinsky et al.-Haskell et al. system. See 6/4/2007 Office Action, page 5.

As previously discussed, Ohlsson et al. describes varying the size of a jitter buffer based on an estimated variation of packet transmission delay derived from the times of arrival of packets stored in the buffer. According to Ohlsson et al., the problem of determining the delay time needed in a jitter buffer to achieve a smooth data feed to an application is solved based on an assumption that “the transmitter sends the data packets at intervals that are known to the receiver, e.g., at regular intervals.” Ohlsson et al., col. 4, lines 42-44 (emphasis added). See also Ohlsson et al., col. 6, lines 10-13. Consequently, contrary to the assertions in the office action, Ohlsson et al. does in fact depend on temporal information received with the packets (i.e., information about the data packet interval). Consequently, Ohlsson et al., like Pogrebinsky et al. and Haskell et al., teaches away from the claimed subject matter.

Moreover, Ohlsson et al. contains no disclosure of determining the size of a jitter buffer based on the number of packets in the buffer in the manner set forth in the claims. By way of example and without limitation, claim 1 states that the control means:

monitors the number of packets in the receiving buffer at intervals of a predetermined time period, and when a result shows increase or decrease in the number of packets with time, the control means, based on the result, modifies a receiving buffer size and the reference value for the number of received packets at which reproduction of data is started.

In Ohlsson et al., the size of the jitter buffer is based on packet delay. See, e.g., Abstract (delay time needed in a jitter buffer is determined by “methods and apparatus that vary the size of the jitter buffer based on an estimated variation of packet transmission delay derived from the times of arrival of stored packets.”) There is no modifying of a receiving buffer size or the claimed reference value based on a result of monitoring the number of packets in the receiving buffer.

Finally, the office action does not address the deficiency of the references noted in the prior response with respect to modifications of one type successively occurring as set forth in claims 27, 28, 39 and 40, for example. Specifically, the applied references do not disclose or suggest recording modifications over time and modifying the receiving buffer size based on these records as specified in these claims. Pogrebinsky et al. is acknowledged as not disclosing this feature and reference is made to Haskell et al. in this regard. However, Haskell et al.'s adjustment of the jitter delay value, Dj, based on monitored data is not the same as, and is not suggestive of, adjusting the buffer size. See, e.g., Haskell et al., col. 5, lines 46-52. For these additional and independent reasons, claims 27, 28, 39 and 40 patentably distinguish over Pogrebinsky et al. and Haskell et al.

Moreover, claims 21, 22, 27, 28, 33, 34, 39 and 40 each requires two modifications. First, the reference value for the number of received packets at which reproduction of data is started is modified, for example, when the data in the buffer is used up or when the data exceeds a predetermined buffer size. Second, the receiving buffer size and the reference value are modified, for example, when the monitored the number of packets increases or decreases with time or when modifications of one type successively occur. The applied references do not disclose or suggest such modifications. For these additional and independent reasons, claims 21, 22, 27, 28, 33, 34, 39 and 40 patentably distinguish over these applied references.

Claims 23, 25, 26, 29, 30, 35, 37, 38, 41 and 42 were rejected under 35 U.S.C. Section 103(a) as allegedly being “obvious” over the proposed Pogrebinsky et al.-Haskell et al.-Ohlsson et al. combination, and further in view of Cloutier (U.S. Patent No. 5,966,387).

Cloutier is once again cited in the office action in connection with modifying a clock for data reproduction. See 6/4/2007 Office Action, page 14. However, as previously discussed, Cloutier describes that the output clock signal (OC) is changed if the detection processor 128 determines the presence of jitter. See, e.g., Cloutier, col. 13, lines 43-47. This is not the same

as, and is not suggestive of, modifying a clock based on successive occurrences of modifications of one type as claimed.

Moreover, with respect to claims 29, 30, 41 and 42, the applied references do not disclose or suggest modifying a clock for data reproduction based on whether modifications of one type of, for example, the reference value or the receiving buffer size, successively occur. Cloutier describes that the output clock signal (OC) is changed if the detection processor 128 determines the presence of jitter. See, e.g., Cloutier, col. 13, lines 43-47. This is not the same as, and is not suggestive of, modifying a clock based on successive occurrences of modifications of one type as claimed. For these additional and independent reasons, claims 29, 30, 41 and 42 patentably distinguish over the proposed combination of Pogrebinsky et al., Haskell et al. and Cloutier et al.

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The pending claims are believed to be allowable and favorable office action is respectfully requested.

Respectfully submitted,

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By:

A handwritten signature in cursive script, appearing to read "Michael J. Shea", is written over a horizontal line.

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